

# LPS Bulletin – Reliability

## RI-4CU-Steam Leak Damages Valve 22-Oct-09



**IPS Control:**  
#1681652

### Contact Information:

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### Incident Description:

**WHEN:** October 22<sup>nd</sup>, 2009  
**WHERE:** Richmond: D&R ABU  
**WHAT:** Steam Leak Damages Valve  
**SUMMARY:** While making rounds in the Crude unit, the Field Operator noticed excess steam around P-1165A. After seeing the turbine was slow rolling, he blocked in the trip throttle valve and called the Head Operator to help investigate. He then saw wisps of steam coming from the steam APS (Automatic Pump Start) valve and noticed that the APS valve stem had been forced upward approximately 50% of the total travel distance.

### Investigation Findings:

1. Currently there is no inspection or preventative maintenance program for APS valves.
2. The valve sustained a steam leak which eroded the bonnet and the nut threads due to a swirling action caused by the valve design.
3. Rocking motion that occurs during pump start up caused the nut to skip threads until it eventually came off..

### Factors That Went Well:

1. Operation identified problem and isolated valve without incident
2. Thorough inspection and repairs were completed in a timely manner

### Lessons Learned/Business Practices:

1. Valves in high pressure steam service should have a routine inspection plan and any steam leaks discovered should be repaired promptly.

### Recommendations:

1. Evaluate need to provide additional support for 11PV065A and associated piping to minimize movement/rocking during pump start up.
2. Research different valve designs to see if there is a better valve design for high pressure steam service.
3. Evaluate need to develop routine inspection plan for all valves in high pressure steam service.

### Tenets of Operations Violated:

6. Always maintain integrity of dedicated systems.

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